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National Institutes of Health
9000 Rockville Pike
Bethesda, Maryland 20892

RE: Request for Information (RFI) on Recommendations for Improving NRSA Fellowship Review
Notice Number: NOT-OD-23-110

Submitted electronically at https://rfi.grants.nih.gov/?s=642ed5def0356688b20e6be3

The Association of American Medical Colleges (AAMC) appreciates the opportunity to provide feedback to the National Institutes of Health (NIH) on the recommended changes to the peer review of the Ruth L. Kirschstein National Research Service Award (NRSA) fellowship applications – a funding mechanism and training program that provides predoctoral individuals with supervised research training in health-related areas.

The AAMC is a nonprofit association dedicated to improving the health of people everywhere through medical education, health care, medical research, and community collaborations. Its members are all 157 U.S. medical schools accredited by the Liaison Committee on Medical Education; 13 accredited Canadian medical schools; approximately 400 teaching hospitals and health systems, including Department of Veterans Affairs medical centers; and more than 70 academic societies. Through these institutions and organizations, the AAMC leads and serves America's medical schools and teaching hospitals and the millions of individuals across academic medicine, including more than 193,000 full-time faculty members, 96,000 medical students, 153,000 resident physicians, and 60,000 graduate students and postdoctoral researchers in the biomedical sciences. Following a 2022 merger, the Alliance of Academic Health Centers and the Alliance of Academic Health Centers International broadened the AAMC's U.S. membership and expanded its reach to international academic health centers.

The AAMC commends the NIH's prioritization of improving the review of the NRSA fellowship, a flagship national mechanism that allows individuals to become outstanding scientists of the next generation. The NIH's current efforts align with the AAMC mission and strategic plan, which seek to foster innovative research and discovery; attract and advance a diverse workforce; create more inclusive, equitable environments throughout the research community in medical schools, and teaching hospitals; and improve the health of all people.[1]

We also support the three goals outlined in the RFI to better focus reviewer attention on three key assessments (potential of the applicant, strength of the science, and quality of the training plan); reduce bias in review by reducing inappropriate consideration of sponsor and institutional reputation; and define criteria to give less advantaged applicants a better chance, without disadvantaging others. To achieve these goals, **we recommend that the NIH take the following actions: 1) provide standardized resources to account for the variance in application preparedness and expertise across institutions; 2) explicitly detail ways for individuals to meet the application criteria that directly impact funding success; 3) promote the underlying cultural changes, that, if left unchanged, can lead to a reversal back to traditional criteria that promotes funding disparities; and 4) train and empower scientific review officers (SROs) and chairs to be champions for a fair review.**

[1] A Healthier Future for All: AAMC Strategic Plan

Recommendations

The AAMC applauds NIH's prioritization of NRSA application review criteria and shares in the urgency to adopt a solution to evaluate an applicant's potential without undue influence of the sponsor's or institution's reputation; thereby improving the chances that "the most promising applicants, no matter who they are or where they are based, will be consistently identified". The AAMC garnered perspectives from its constituents in the biomedical research community[2] , including research and research training leaders, to provide this feedback.

1. *Provide resources to close the information gap among institutions:* The disparities in NRSA funding rates among institutions is well-supported by data. For example, applicants from institutions that submit low numbers of fellowship applications have worse review outcomes. Concomitantly, applications are highly concentrated in a small number of institutions, and review outcomes improve as the academic rank of the sponsor rises. It is crucial to note that though reviewer bias might be a driver of such disparities, **there is a high likelihood that the unequal depth of expertise and experience among institutions deepens the funding gap observed between institutions that submit low versus higher number of applications**. Below, we suggest recommendations that the NIH can take to mitigate the inherent institutional variance in NRSA application expertise, which in turns influences institutional preparedness and NRSA funding success.

- Often, institutions that submit a high number of proposals also have more robust institutional and cultural mechanisms that benefit their students. This might include formal NRSA grant writing classes and a higher concentration of faculty who serve on NRSA study sections and impart such knowledge to their home institutions. To compensate for the disparity in these 'tips and trips' across institutions, **we recommend that the NIH implement a widely available set of resources (beyond the scope of a singular informational seminar) that is applicable to all eligible institutions**. A model likened to the National Research Mentoring Network (NMRN), in which all institutions can be provided with programming and mentorship, including individual near-peer coaching, on NRSA 'tips and tricks' could alleviate the lack of NRSA-preparedness resources seen across institutions.
- **We recommend the NIH specify precisely what is required in various components of the NRSA application.** Experienced institutions are likely well-versed in navigating the NRSA funding announcement, and all institutions should have the benefit of this information. An excellent model of increased transparency can be seen in the National Institute of General Medical Sciences medical science training program (MSTP) F30 and F31funding mechanisms, in which the funding opportunity announcement states specifically – not subtlety – the exact application information that will have a large impact on an applicant's funding success.
- The NIH has examples of successful, funded NRSA proposals on their website, but less experienced applicants and institutions might not be clear on which specific elements make such applications are successful. **We therefore recommend that the NIH annotate the examples of successful NRSA, which can demystify the reasons why some grants are more likely to be funded, over others.**
- The quality of the research plan in the NRSA proposal is a great differentiator in grants that are successfully funded versus those that are not. Members of the AAMC community strongly believe that the importance of, and subsequent impact of the research plan on an overall score, would remain – even with the proposed NRSA review changes. **We therefore recommend NIH clarify and augment instructions on how to prepare a successful research plan.** Providing both the common pitfalls and bright spots in the research plan assembly can pre-emptively equip institutions, applicants, and sponsors with the tools to create an exceptional research plan on their first submission.

2. *Set a weighted standard for evaluating the components of an NRSA proposal, thereby reducing undue sway:* Discussion of NRSA review in even the most-well intentioned study sections invariably lead to an undue focus on the institution's reputation, as well as the applicants and sponsor's grant and publication record, likely contributing to bias. To counterbalance this, **we recommend that the NIH set a standard for weighting the various components of the NRSA proposal.** An excellent example of this the American Heart Association's scoring mechanism for pre-doctoral applications, in which each component of the application is quantitatively weighted (e.g., a third of the score is based on the trainee, a third on the environment (mentor and resources), and a third on the scientific merit being pursued). In this way, bias can be counteracted by a set quantitative standard by which reviewers can ensure that other components of the application – such as undue reputation

[2] Including the following AAMC professional development groups: the Group on Research Advancement and Development (GRAND); the Group on Research, Education and Training (GREAT).

bias – is not directly affecting the overall proposal score. Though this scoring mechanism might require more effort on the reviewers' part, a pilot test might determine if the advantages outweigh the added burden.

3. *Broaden the types of research that are valued and funded:* In deeming which types of projects will get funding, there might be considerable bias regarding which *type* of research a proposal contains. For example, hypothesis-driven research might be valued over bioinformatics research. **We recommend the NIH evaluate if bias exists, and if so, make a concerted effort to educate both the SRO and study section members on the value of various types of research.**

4. *Focus on cultural changes required to mitigate bias:* Successful implementation of NIH's proposed changes to the review criteria will require a cultural change that de-emphasizes various components of an application (e.g., prestige of applicant's institution). Below, **we recommend ways in which the NIH can promote accountability and empower individuals involved in the review process to spur change:**

- Invest in reviewer training for both seasoned members (who might hold onto residual cultural biases) and less experienced reviewers (who might need guidance in understanding the contours of a successful review process).
- As previously recommended[3,4], we reinforce the importance of diversifying the composition of study sections in order to incorporate diverse perspectives and mitigate the use of a narrower set of criteria around the evaluation and selection of awarded grants.

5. *Train and empower the study section chair and SRO to promote the proposed changes*: As previously described[4], **we recommend that the NIH implement a training and orientation of new chairs**, thereby honing their skills in how to be an active member in fostering clear, constructive ways to identify and mitigate bias in real-time as well as reinforce the proposed review changes. In addition, SRO's are an important lever that can drive the adoption of the NIH's proposed NRSA recommendations. **We recommend the NIH conceptualize how the SRO can play more of a continuous and active role in ensuring that the review process is fair –** and not excluding highly qualified scientists due to an overly narrow emphasis on traditional markers of success.

6. *Emphasize the focus on training*: We commend the NIH for elimination of grades in the NRSA application, which can disproportionately impact various individuals. As the NIH finalizes and implements the proposed review suggestions, **we urge them to emphasize the goal of the NRSA is for *training*,** ensuring that the amount of preliminary data or the strength of publication records should not unduly penalize promising applicants.

The AAMC appreciates the opportunity to submit these comments to NIH on the proposed changes to the NRSA fellowship review. If you have any questions regarding this response, please contact me or my colleague Julia Omotade, PhD, Senior Specialist, Science Policy (jomotade@aamc.org).

Sincerely,

Ross McKinney, MD
Chief Scientific Officer

cc: David J. Skorton, MD, President and Chief Executive Officer

[3] AAMC Submits Comments to NIH on UNITE Initiative
[4] AAMC Comments on NIH's Proposed Simplified Review Framework for RPG Applications